SUMMARY OF POWAY LANDFILL
APRIL-JUNE 2006 INVESTIGATIONS AND CONCLUSIONS

Investigation History 2004 - 2005:

In late 2004 and 2005 several chemicals were detected in soil vapor samples collected from temporary soil vapor wells near the southern property line of the Poway landfill. The primary chemicals of concern were benzene, trichloroethylene (TCE), tetrachloroethylene (PCE), dichlorodifluromethane (DCDFM or Freon 12), and vinyl chloride. Risk assessments were conducted, using the data from these samples. The more conservative set of results showed an increased risk of one additional case of cancer per million people based on hypothetical exposure to modeled concentrations of contaminants in indoor air for 30 years. A public meeting was held by DEH in late March 2006 to discuss the results and to describe the additional analysis planned.

Current Investigation

Beginning in April 2006, the following investigation work was conducted to evaluate the risk to residents in the vicinity of the landfill:

- 16 onsite (on the landfill property) and 22 offsite (in the neighborhood) permanent soil vapor wells were installed. These were sampled twice- once in April and once in May 2006, and will continue to be sampled twice-yearly. The next sampling will be conducted in late-July 2006. Reports will be posted as they become available.

- Two additional ground water monitoring wells offsite were installed and sampled (for a total of 10 ground water monitoring wells evaluated). All of the ground water monitoring wells will be sampled as part of the twice yearly monitoring beginning on July 17, 2006. Reports will be posted as they become available.

- The landfill gas collection and control system was studied. It was determined that with improvements the system could be more effective in landfill gas extraction and could potentially stop any migration offsite that may be occurring.

- Historical aerial photographs were reviewed for past land uses and sources of contamination

- The storm water and sewer systems were evaluated and sampled to see if they could be potential sources or carriers of the contaminants seen

A copy of the report is also available for review at the Poway Library reference desk, and at the LEA's office.

Soil Vapor:
Soil vapor is the vapor/gas that is found underground within the open spaces/voids between soil particles. The soil vapor sample results are broken up into four categories:

1) on-landfill samples, 2) boundary samples (samples collected on the landfill property between the landfilled waste and the property boundary), 3) offsite samples from the neighborhood, and 4) soil vapor samples from utility lines.

1) On Landfill Samples:
The soil vapor samples collected from within the landfill had concentrations of methane and several of the contaminants of concern (PCE, TCE, DCDFM, and benzene) at levels you would expect to see at a closed landfill. There were no unusual concentrations of chemicals found in the samples.

2) Boundary Samples:
The soil vapor samples collected from the site boundary contained lower concentrations of the contaminants of concern than the samples taken on the landfill. However, no vinyl chloride or TCE was detected in any of the boundary soil vapor samples. This shows a reduction of the chemicals with distance from the waste.

3) Offsite neighborhood samples:
The neighborhood sample data shows a general decrease in DCDFM and benzene with increasing distance from the landfill. However, PCE was reported at a greater frequency and at higher concentrations in offsite samples than in the boundary samples, and PCE levels were detected at higher concentrations in the neighborhood than they were found within the landfilled waste. This result would not be expected if the sole source of PCE was the migration of that contaminant from the landfill. Also none of the boundary samples contained TCE, but almost 30% of the neighborhood samples contained TCE. Vinyl chloride was not detected in any of the boundary or neighborhood samples (see figures in report)

4) Utility lines:
Soil vapor samples collected from above and within the storm water and sewer line in the neighborhood had low concentrations of benzene and toluene (fuel related compounds).

Ground water
No chemicals of concern were detected above drinking water standards (MCLs) in any of the wells installed for test purposes in the neighborhood.

Human Health Risk Assessment
A revised human health risk assessment was conducted using the same EPA accepted model used previously. The assessment was done by GeoSyntec Consultants and reviewed by staff of the Department of Environmental Health and Regional Water Quality Control Board. The results showed an increased risk of cancer of less than one in one million, based on hypothetical exposure to modeled concentrations of contaminants in indoor air for 30 years. This level of risk is generally considered to be acceptable by state and federal environmental regulators.

Conclusions:

Subject to consideration of further sampling results, the conclusions drawn from this investigation are:

1. The risk to human health from the contaminants of concern is low. Modeled risk levels were below commonly used thresholds of regulatory concern.

2. The landfill is a source of some of the chemicals detected near the landfill. However, some of the detected chemicals may be from other sources such as the storm drain/sewer system, roadway paving, etc. Further monitoring of the existing vapor and water well system will be conducted. No new wells are proposed at this time.

3. The onsite landfill gas collection and control system will be modified to optimize operations, and to minimize offsite migration of landfill gas and associated chemicals that are being detected off site of the landfill.

A meeting has been scheduled for 7:00pm on August 31, 2006 at the Poway Community Park Auditorium to discuss the investigation results. A flier will be sent to residents prior to the meeting.

For more information, contact the LEA